

Claim 44, Line 1: Delete "An impact resistance additive" and insert --A composition--.

Please add the following new claims:

C 3
-- 47. A composition according to claim 1, wherein a) 2) is present in an amount more than 0% by weight.

48. A composition according to claim 1, wherein the composition contains a major amount of polyvinyl chloride and a minor amount of said impact additive.

REMARKS

The Office Action of October 18, 1999 has been carefully studied. The petition and fee for a two-month extension of time is attended to in the attached letter of transmittal.

The claims in the case are now 1-34 and 36-48. No claim has yet to be allowed; however, it is stated on page 7, third paragraph of the Office Action that the claims can be made allowable over the prior art by amending the independent claims to recite that component (a) (2) is present in an amount of greater than 0% by weight but not more than 80% by weight.

The following paragraphs correspond to the order of the paragraphs of the Office Action.

The title of the case is now corrected so as to change "Corn" to "Core".

The abstract is now changed so as to be in the form of a single paragraph.

The Examiner is thanked for capitalizing the word "claim" and replacing the expression "either of" to "one of" in the pertinent claims. The phrase "a impact additive" is now changed to "an impact additive".

The term "which is of a vinyl group" formerly in claim 1 is corrected so as to delete "of".

Claim 29 now contains a period.

Claim 33 is amended so as to delete the period before the word "A" and to eliminate the "two periods" before the first and second lines.

As for the phrase "not more than 80%" taken by itself, it is intended that this reads on 0% unless otherwise stated. This expression is thus retained for claim 1 and claims

dependent thereon, but is not retained for claim 28 which is amended so as to include the expression "an amount above 0%, but not more than 80% by weight".

The term "type" is canceled.

Claim 29 is now amended to recite the polymer. The Examiner is thanked for noting the discrepancy.

Likewise, the Examiner is thanked for noting the informality in claim 44 which is now drawn to a composition and not an impact resistance additive.

Accordingly, the rejections of claim 44 under 35 U.S.C. 112 second paragraph and under double patenting is now overcome.

The rejection of claims 28-34 and 36-40 as being anticipated by Ayoama et al. is now overcome by the amendment to the claim which requires component (a) (2) to be present in an amount of more than 0%.

With respect to the rejection of claims 1-27 over Ayoama et al., Applicants respectfully traverse this rejection on the following grounds:

1) It is apparently the position of the Examiner that this reference would teach one of ordinary skill in the art that polyvinyl chloride is present in the polycarbonate Ayoama et al. composition. In other words, it is the Examiner's position that one of ordinary skill in the art would be taught to replace the alkyl acrylate (i) with a monomer (ii) copolymerizable with the alkyl acrylate, and this copolymerizable compound would be none other than vinyl chloride and the grafting reaction would result in a byproduct which would be polyvinyl chloride. This is indeed a stretch, in view of the full teaching on column 4, lines 42 to 59 wherein "halogenated vinyl compounds" is mentioned as one of a practically infinite number of possibilities. In contrast, neither the examples nor any guide posts of Ayoama et al. lead one of ordinary skill in the art to the use of any halogenated vinyl compounds, much less vinyl chloride. Furthermore, Applicants respectfully take exception to the Examiner's speculative statement that if vinyl chloride were employed that invariably some polyvinyl chloride would be formed.

2) In any case, it is clear beyond question that the Ayoama et al. patent is directed to a polycarbonate composition and that the purpose of the impact additive is to provide the polycarbonate composition with an excellent impact strength at low temperature. To the contrary, Applicants' claim 1 is directed to a "polyvinyl chloride composition", and one of ordinary skill in the art would immediately assume that such a polyvinyl chloride

composition would have a predominant amount of a homopolymer polymer of vinyl chloride. Merely addressing Applicants' examples, tabulated Table 1 and Table 2 on pages 40 and 42, it is seen that the impact additive used in Applicants' invention is very minor indeed, about 6-8 parts per hundred, compared to the content of polyvinyl chloride. Thus, it is respectfully submitted that the teachings of Ayoama et al. and the construction of claim 1 of Applicants' invention cannot be so distorted that one of ordinary skill in the art could reasonably understand that Ayoama et al. makes Applicants' invention obvious.

The argument set forth on page 7 of the Office Action, that it would be obvious to substitute polyvinyl chloride for polycarbonate in the Ayoama et al. compositions does not take into account that polycarbonate is a substantially different polymer, both chemically and physically, and although polycarbonate may be more expensive than polyvinyl chloride, it has the requisite properties to justify the expense. Consequently, one of ordinary skill in the art would not arbitrarily substitute any other polymer for the polycarbonate which is the very essence of the Ayoama et al. patent. Thus, at best, the teachings of Ayoama et al. would amount to merely an invitation to experiment, and this is not a sufficient basis upon which to predicate a rejection under 35 U.S.C. 103.

In new claim 48, the composition contains a major amount of polyvinyl chloride and a minor amount of the impact additive, and although it is Applicants' position that one of ordinary skill in the art would understand that a "polyvinyl chloride composition" would necessarily contain a major amount of polyvinyl chloride, Applicants would be interested in determining whether the Examiner finds that claim 48 is patentably distinct from claim 1.

In view of the above, it is respectfully submitted that Applicants' claim 1 and those claims dependent thereon are clearly patentable under 35 U.S.C. 103. (New claim 47 contains the "above 0%" limitation inserted into claim 28. As for claims 2-26, they on their face, contain subject matter even more unobvious over Ayoama et al.; therefore Applicants will not burden the record further by a discussion of the distinctions in each of claims 2-26, but reserve the right to do so in the future, if ever necessary.

Inasmuch as the application now appears to be in condition for allowance, an early notice thereof would be sincerely appreciated.

Respectfully submitted,



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ABSTRACT OF THE DISCLOSURE

The invention relates to an impact additive of the core/shell type for thermoplastic polymers. This impact additive comprises a crosslinked elastomeric core based on n-alkyl acrylate and a shell made of poly(alkyl methacrylate) grafted onto the said core.